

METHOD AND SYSTEM FOR TREATING A DIELECTRIC FILM

ABSTRACT OF DISCLOSURE

A method and system for treating a dielectric film includes exposing at least one surface of the dielectric film to a C_xH_y containing material, wherein x and y are each integers greater than or equal to a value of unity. The dielectric film can include a low dielectric constant film with or without pores having an etch feature formed therein following dry etch processing. As a result of the etch processing or ashing, exposed surfaces in the feature formed in the dielectric film can become damaged, or activated, leading to retention of contaminants, absorption of moisture, increase in dielectric constant, etc. Damaged surfaces, such as these, are treated by performing at least one of healing these surfaces to, for example, restore the dielectric constant (i.e., decrease the dielectric constant) and cleaning these surfaces to remove contaminants, moisture, or residue. Moreover, preparation for barrier layer and metallization of features in the film may include treating by performing sealing of sidewall surfaces of the feature to close exposed pores and provide a surface for barrier film deposition.